

Q4
Sons

amplifies the calculation by a given magnification (e.g., 100 times or greater)) so as to produce a voltage-amplified output voltage (S4(the second step)). The voltage-amplified output voltages from all amplifiers 4 are input in parallel to tester 10, in which a given voltage range has been set up (S5). In comparator 12 of tester 10, it is judged whether each voltage-amplified output voltage falls within the given voltage range (S6(the third step)). In this judgment, when AND circuit 17 produces the L-level output, which means that any of the output voltages is judged to fall out of the given range, the testing operation is stopped at that point so that the LSI under test is rejected as defective (S7). On the contrary, when AND circuit 17 produces the H-level output, which means that all the output voltages are judged to fall within the given voltage range, the operation goes to the next step, i.e., the test on the third tonal voltage level (S8). --

IN THE CLAIMS:

Please amend the claims as follows:

Q5
Sons

8. (Amended) A storage medium for storing the program for a computer to execute a testing method for a semiconductor integrated circuits which incorporates a multiple number of D/A converters and outputs voltages from the D/A converters via associated output terminals, wherein a testing device for semiconductor integrated circuits is used which comprises:

a reference voltage generator which generates a multiple number of reference voltages to be compared to each output voltage output from each of the output terminals and can selectively output multiple sets of reference voltages required for testing multiple kinds of semiconductor integrated circuits:

a multiple number of differential amplifiers, each having two input terminals, one for receiving the output voltage output from the associated output terminal and the other for receiving the reference voltage from the reference voltage generator; and

as
Sons
a comparator that receives the amplified output voltages from the multiple number of differential amplifiers and judges whether the amplified output voltage from each of the differential amplifiers falls within a given voltage range, wherein the reference voltage generator includes a D/A converter which receives a digital data signal different from the signals to the D/A converters incorporated in the semiconductor integrated circuit to generate the multiple number of reference voltages and can selectively output a necessary set of reference voltages from the multiple sets of reference voltages required for testing multiple kinds of semiconductor integrated circuit, in accordance with the selection of the digital data signal,

the program comprising:

the first step for calculating the difference between the reference voltage

generated from the reference voltage generator of the testing device and the output voltage output from each output terminal, for all the output terminals;

the second step for amplifying the values obtained from the first step; and

the third step for judging at one time whether all the amplified differential values obtained in the second step in association with respective output terminals fall within the first given voltage range, wherein even if the output from the device under test varies, the first given voltage range can be kept at constant by computing the difference between the output from the device under test and the associated reference voltage generated from the above reference voltage.

9. (Amended) A storage medium for storing the program for a computer to execute a testing method for a semiconductor integrated circuits which incorporates a multiple number of D/A converters and outputs voltages from the D/A converters via associated output terminals, wherein a testing device for semiconductor integrated circuits is used which comprises:

a reference voltage generator which generates a multiple number of reference voltages to be compared to each output voltage output from each of the output terminals and can selectively output multiple sets of reference

voltages required for testing multiple kinds of semiconductor integrated circuits:

a multiple number of differential amplifiers, each having two input terminals, one for receiving the output voltage output from the associated output terminal and the other for receiving the reference voltage from the reference voltage generator: and

a comparator that receives the amplified output voltages from the multiple number of differential amplifiers and judges whether the amplified output voltage from each of the differential amplifiers falls within a given voltage range, wherein the reference voltage generator includes a D/A converter which receives a digital data signal different from the signals to the D/A converters incorporated in the semiconductor integrated circuit to generate the multiple number of reference voltages and can selectively output a necessary set of reference voltages from the multiple sets of reference voltages required for testing multiple kinds of semiconductor integrated circuit, in accordance with the selection of the digital data signal,

the program comprising:

the first step for calculating the difference between the reference voltage generated from the reference voltage generator of the testing device and the output voltage output from each output terminal, for all the output terminals; the second step for amplifying the values obtained from the first step;

the third step for judging at one time whether all the amplified differential values obtained in the second step in association with respective output terminals fall within the first given voltage range, wherein even if the output from the device under test varies, the first given voltage range can be kept at constant by computing the difference between the output from the device under test and the associated reference voltage generated from the above reference voltage;

the fourth step for decreasing the width of the first given voltage range by a multiple of the predetermined voltage width to set up a second given voltage range: and

95
cont the fifth step for judging at one time whether all the amplified differential values associated to respective output terminals falls within the second given voltage range, wherein the fourth and fifth steps are repeated until the judgment at the fifth step changes.
